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# Additions to the Knowledge of the Genus *Symplocos* (Symplocaceae) in Ecuador and Peru

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**ABSTRACT.** Eight Andean species of *Symplocos* Jacq. (Symplocaceae) are described as new to science. They include: *S. condorensis* B. Ståhl, *S. neillii* B. Ståhl, and *S. vanderwerffii* B. Ståhl from southern Ecuador (Zamora-Chinchipec and Morona-Santiago provinces); *S. golondrinae* B. Ståhl from northern Ecuador (Carchi Province); *S. guacamayensis* B. Ståhl from east-central Ecuador (Napo Province); *S. fragilis* B. Ståhl and *S. ovata* B. Ståhl from northern Peru (Amazonas Department); and *S. dolichopoda* B. Ståhl from southern Peru (Cusco Department). *Symplocos spruceana* (Miers) Gürke and *S. nuda* Humb. & Bonpl. are reported as new to Ecuador and Peru, respectively.

**Key words:** Andes, Ecuador, IUCN Red List, Peru, Symplocaceae, *Symplocos*.

Since the publication of my work on the genus *Symplocos* Jacq. in Ecuador and Peru (Ståhl, 1991, 1993, 1995), a large number of new collections have been presented to me, either as gifts for identification or during visits to different herbaria. The Missouri Botanical Garden Herbarium (MO) has provided the major part of this material, which has considerably increased the knowledge of this still poorly known genus, both with regard to morphological variation and distribution. Several new species have also been encountered. Eight of these are described below, along with some notes on range extensions of two previously known species. With this and a supplementary paper (Ståhl, 2010), which also includes a key to all species known to occur in Bolivia, Ecuador, and Peru, the total number of *Symplocos* species recorded from Ecuador and Peru is now 32 and 37, respectively. However, many unique but incomplete specimens are also available, indicating that several species still remain to be described, especially from Peru.

## NEW SPECIES FROM ECUADOR

### 1. *Symplocos vanderwerffii* B. Ståhl, sp. nov.

TYPE: Ecuador. Zamora-Chinchipec: near mining camp at Río Tundaime, 78°24'W, 03°34'S, 1100–1400 m, 9 Nov. 2004, *H. van der Werff*, *B. Gray*, *W. Quizhpe* & *J. C. Ronquillo* 19431 (holotype, S). Figure 1A, B.

Species a *Symplocote peruviana* (Szyszyl.) Brand foliis glabris, floribus majoribus, corollae lobis strigulosis atque disco glabro, a *S. condorensis* B. Ståhl foliis cartilagineis, petiolis longioribus atque corollae lobis strigulosis differt.

Tree to at least 10 m tall; young shoots and branches glabrous, gray. Leaves petiolate, dark brown when dried; blade elliptic or obovate, 6–12 × 2–5.5 cm, cartilaginous, glabrous on both sides, base attenuate, apex shortly obtuse-acuminate or obtuse, margins entire, slightly revolute; midvein prominent abaxially, impressed adaxially, lateral veins 6 to 11 per side, prominulous abaxially, inconspicuous adaxially, veinlets inconspicuous on both sides; petiole 3–6 mm, glabrous. Inflorescences little-branched panicles, 1–2 cm, borne mainly in the leaf axils of extant leaves, inflorescence branches glabrous; bracts glabrous, very broadly ovate, ca. 1 × 1 mm; flowers 4 to 15 per inflorescence; each flower subtended by 3 bracteoles, these very broadly ovate, 1.2–1.5 × 1.5–1.8 mm, glabrous, the margins ciliolate. Flowers with the calyx glabrous, tube ca. 1 mm, lobes very broadly ovate, ca. 1.5 × 1.5 mm, margins sparsely ciliolate; corolla white, 3.5–4 mm, lobes broadly oblong, 2–2.5 mm wide, densely strigulose on the outside except toward margins, the margins entire; stamens 35 to 40 in 3 rows, filament tube 0.5–0.7 mm, free filaments 0.5–1.8 × 0.3–0.4 mm, minutely and densely papillose; anthers ca. 0.2 × 0.2 mm; disc thick-annular, glabrous; style ca. 0.7 mm; stigma capitate, 2-lobed; ovary 2-locular with 2 ovules in each locule. Fruits ovoid, 9–12 × 6–8 mm, glabrous.

**Distribution and habitat.** *Symplocos vanderwerffii* is so far known only from two collections made in dense, wet cloud forest on sandstone or mixed sandstone and clay soils in southern Ecuador.

**IUCN Red List category.** The new species is categorized as Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001).

**Discussion.** *Symplocos vanderwerffii* is characterized by cartilaginous, obovate, glabrous leaves; gray branchlets; small flowers arranged in little-branched panicles; and a 2-locular ovary. In leaf shape, it is similar to *S. peruviana* (Szyszyl.) Brand, from which it differs in the glabrous leaves and larger flowers

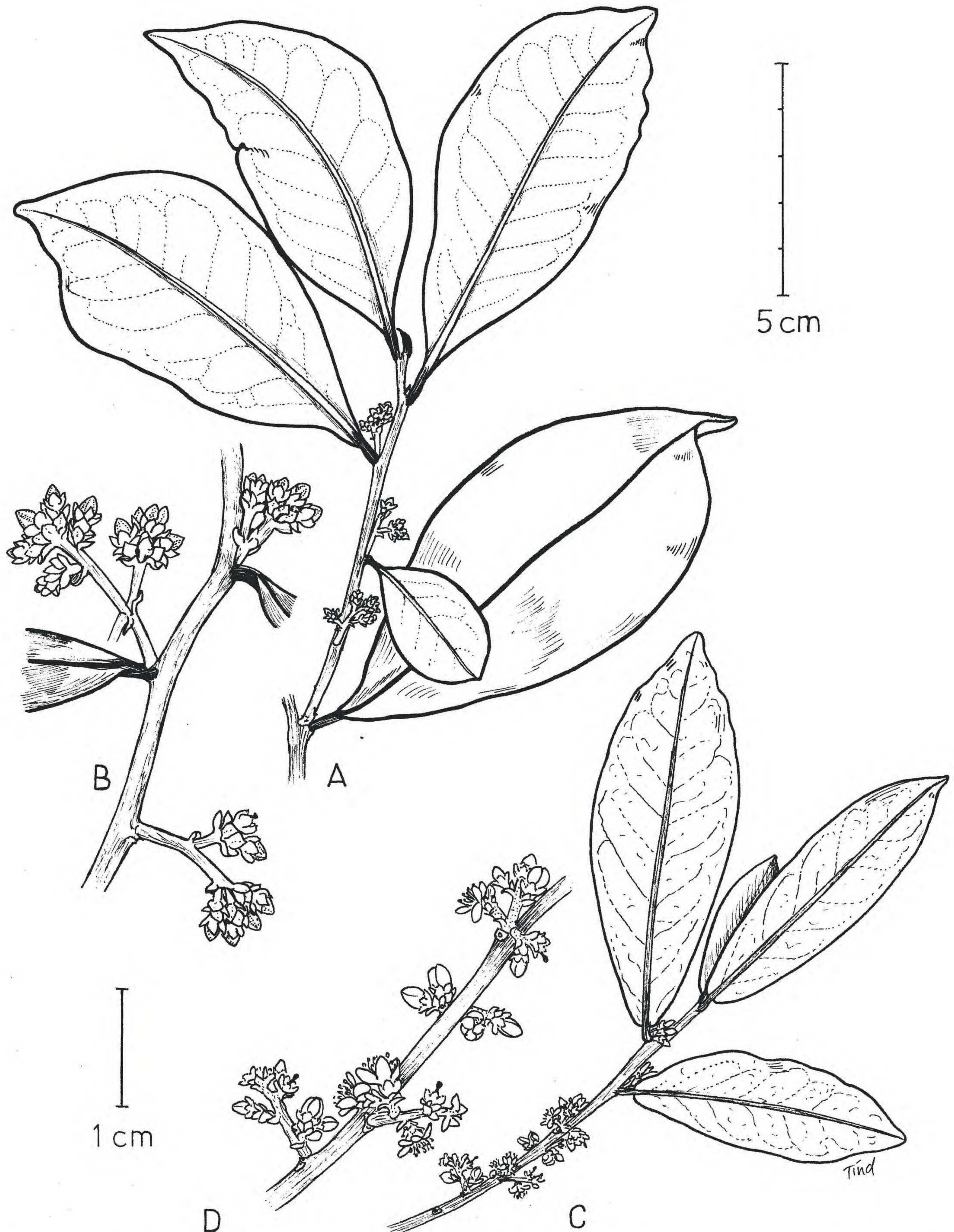


Figure 1. *Symplocos vanderwerffii* B. Stähl (A, B) and *S. condorensis* B. Stähl (C, D). —A, C. Habit. —B, D. Close-up of flowering branch. A, B drawn from the holotype *H. van der Werff et al.* 19431 (S); C, D drawn from the holotype *E. Freire et al.* 4379 (QCNE).

(corolla 3.5–4 mm vs. 2.2–3 mm long) with strigulose corolla lobes, as well as by having fewer stamens (35 to 40 vs. 50 to 65) and a glabrous disc. In floral characters, it is similar to *S. condorensis* B. Stähl,

described in this paper, but differs from that species in the strigulose corolla lobes and several vegetative characters, such as the much thicker leaves and longer petioles.

*Paratype.* ECUADOR. **Zamora-Chinchi**: Cordillera del Cóndor, upper Río Wawaime watershed, tributary of Río Quimi, 78°26'W, 03°34'S, 1320 m, 20 Sep. 2007, *D. Neill, C. Davidson & S. Christoph 15898* (QCNE).

**2. *Symplocos condorensis*** B. Ståhl, sp. nov. TYPE: Ecuador. Prov. Zamora-Chinchi: El Pangui, Cordillera del Cóndor, 1 km S of military camp Cóndor Mirador, 78°03'W, 03°23'S, 2000 m, 16 Dec. 2000, *E. Freire 4379* (holotype, QCNE; isotypes, MO, S). Figure 1C, D.

Species a *Symplocote peruviana* (Szyszyl.) Brand foliis vulgo obovatis vel oblanceolatis, petiolis longioribus, disco glabro atque staminibus paucioribus, a *S. fuscata* B. Ståhl foliis vulgo tenuioribus et longioribus, floribus minoribus atque ovario 3-loculari differt.

Shrub or small tree to 5(–8) m tall, stem to 20 cm diam.; young shoots and branches glabrous, dark brown. Leaves short-petiolate, dark brown when dried; blade obovate to oblanceolate, or sometimes elliptic, 6–9 × 1.8–3.4 cm, coriaceous, glabrous on both sides, base short-attenuate or truncate, apex shortly obtuse-acuminate or obtuse, margins entire, slightly revolute; midvein red in fresh leaves, prominent abaxially, impressed adaxially, lateral veins 6 to 8 per side, these and veinlets prominulous abaxially, lateral veins slightly impressed adaxially, veinlets inconspicuous or invisible adaxially; petiole 1–3 mm, glabrous, reddish when fresh. Inflorescences little-branched panicles or racemes, 4–6 mm, borne on branchlets beneath the foliage and in leaf axils of the lowermost leaves, inflorescence branches glabrous or very sparsely strigulose; bracts glabrous, broadly ovate, ca. 1.5 × 1.5 mm; flowers 4 to 8 per inflorescence; each flower subtended by 3 bracteoles, these very broadly ovate, 1–1.2 × 1–1.2 mm, glabrous or strigulose on midvein, the margins entire or ciliolate. Flowers with the calyx glabrous, tube ca. 1 mm, lobes very broadly ovate, ca. 0.8 × 1 mm, margins ciliolate; corolla white, cream-white, or pink, glabrous, 2.5–3 mm, lobes oblong, 1–1.3 mm wide, margins entire; stamens 30 to 40 in 3 rows, tube 0.5–0.7 mm, free filaments 0.7–2 × ca. 0.8 mm, somewhat papillose; anthers ca. 0.2 × 0.3 mm; disc almost dome-shaped, glabrous; style ca. 1 mm, glabrous; stigma thicker than style, ± flattened; ovary 2-locular with 2 ovules in each locule. Fruits not seen.

*Distribution and habitat.* *Symplocos condorensis* is known from two collections made in a small sandstone area with low forest and dense scrub at the crest of the Cordillera del Cóndor, near the Ecuador–Peru border.

*IUCN Red List category.* The new species is categorized as Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001).

*Discussion.* Having comparatively small flowers arranged in little-branched panicles or racemes, this new species keys to *Symplocos peruviana* in my treatment of *Symplocos* from Peru (Ståhl, 1993). It differs from that species in leaf shape, in having longer petioles, and in several floral characters, such as the glabrous disc and the possession of fewer stamens (30 to 40 vs. 50 to 65). In leaf features it is also similar to *S. fuscata*, which also occurs in southern Ecuador. However, that species has usually much coarser and broader leaves, and differs also by having larger, fasciculate flowers (corolla 5–5.5 mm vs. 2.5–3 mm long) and a 3-locular ovary.

*Paratype.* ECUADOR. **Zamora-Chinchi**: Cordillera del Cóndor, El Pangui, 2 km N of Cóndor Mirador, 78°23'W, 03°37'S, 1975 m, 6 Sep. 2003, *D. Neill, E. Rodríguez, W. Quizhpe & J. Homeier 14423* (QCNE).

**3. *Symplocos neillii*** B. Ståhl, sp. nov. TYPE: Ecuador. Morona-Santiago: Cordillera del Cóndor, Cerro Chankinias, ridge S of Río Warintza, 78°19'W, 03°15'S, 2500 m, 16 Dec. 2002, *D. Neill 14165* (holotype, QCNE; isotypes, MO, S). Figure 2A–C.

Species a *Symplocote mezii* Szyszyl. surculis juvenibus laevibus glabris, foliis subtus et floribus glabris atque laminis foliaribus ad apices retusis, a *S. fuscata* B. Ståhl laminis foliaribus ellipticis ad margines denticulatis atque floribus majoribus differt.

Shrub or small tree to 5 m tall; young shoots and branches glabrous, brown. Leaves petiolate, distinctly discolored, at least when dried, adaxial side dark, matte brown, abaxial side light, yellowish brown; blade elliptic, 3.5–8 × 1.5–4 cm, cartilaginous, glabrous on both sides, base truncate or short-attenuate, apex obtuse to rounded, often slightly retuse, margins often revolute, often distinctly so, entire from the middle to base, denticulate from above the middle to the apex, with 6 to 10 teeth per side; midvein prominent abaxially, impressed adaxially, lateral veins 5 to 7 per side, these and veinlets prominulous abaxially, usually slightly impressed adaxially; petiole 2–5 mm, glabrous, canaliculate. Inflorescences fasciculate, sessile or with peduncle to 5 mm, glabrous, borne in the axils of extant leaves; bracts 2, ovate to broadly ovate, 2.5–3.5 × 1.8–3 mm, glabrous, ciliolate at margins and on midvein; flowers 2 to 4 per inflorescence; each flower subtended by 2 bracteoles, these very broadly ovate, 2–2.5 × 1.8–2.2 mm, sparsely strigulose on midvein, other parts glabrous, margins ciliolate. Flowers with the calyx glabrous, tube 1–1.2 mm, lobes very broadly ovate, 2–2.5 × 2–3 mm, margins ciliolate; corolla pink, 5–7 mm, glabrous, lobes broadly oblong, 3–3.5 mm wide, margins entire; stamens 50 to 65 in 3 or 4 rows, filament tube 3.5–5 mm, stamens of inner whorl lacking free

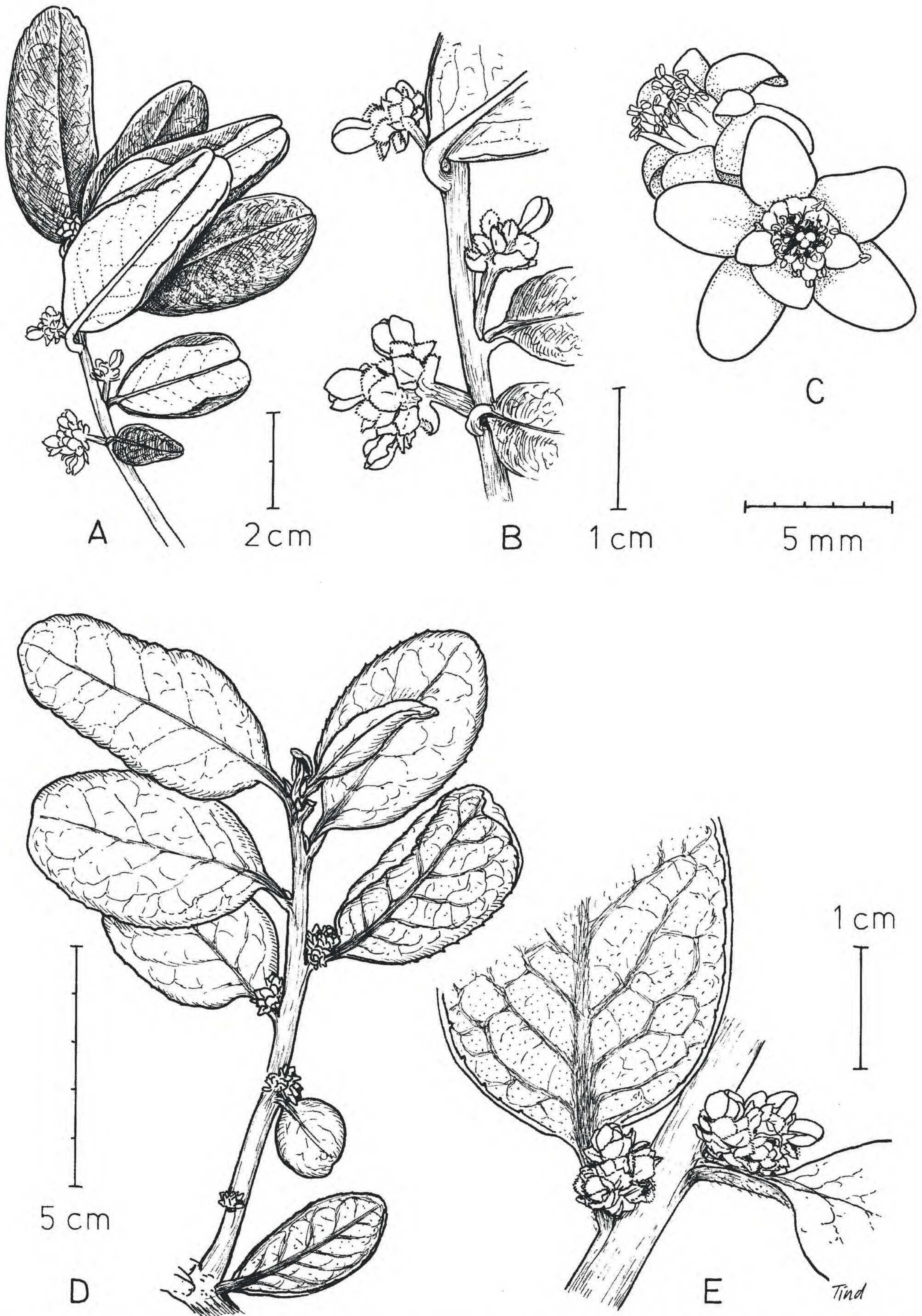


Figure 2. *Symplocos neillii* B. Stähl (A–C) and *S. golondrinae* B. Stähl (D, E). —A, D. Habit. —B, E. Close-up of flowering branch. —C. Flowers. A–C drawn from the isotype *D. Neill et al.* 14165 (S); D, E drawn from the isotype *W. Palacios & J. L. Clark* 12513 (S).

filaments except for the constricted, terminal part, stamens of outer whorl with free filaments ca.  $1 \times 0.4$ – $0.6$  mm, faintly papillose; anthers  $0.2$ – $0.3 \times 0.2$ – $0.3$  mm; disc annular, pilose; style ca. 4 mm, pilose at

base; stigma capitate, 3-lobed; ovary 3-locular with 2 ovules in each locule. Fruits ovoid to subcylindrical,  $8$ – $10 \times 5$ – $6$  mm, style base sparsely to densely strigulose, other parts glabrous.

*Distribution and habitat.* *Symplocos neillii* has been collected in scrub or open páramo vegetation on or near mountain ridges. At least one of the collections (Neill *et al.* 13074) was made in a sandstone area.

*IUCN Red List category.* The new species is categorized as Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001).

*Discussion.* *Symplocos neillii* is similar to *S. mezii* Szyszyl. but differs from that species by having glabrous and smooth young shoots (not strigose and rugose), distinctly revolute leaf margins (at least in herbarium material), and glabrous (not strigulose) abaxial leaf surfaces and floral parts. It is also similar to *S. fuscata*, a species which differs from *S. neillii* in the flat, entire leaf margins, obovate rather than elliptic leaves, and the somewhat smaller, white flowers (corolla 5–5.5 mm vs. 5–7 mm long).

*Paratypes.* ECUADOR. **Morona-Santiago:** Cordillera del Cóndor, 15–20 km SSE of Comunidad Warints on trail toward crest, 78°19'W, 03°15'S, 2400–2700 m, 16 Dec. 2002, J. L. Clark & L. Jost 7017 (S); same general area, on trail to top of Cerro Chankinias, 78°17'W, 03°14'S, 2200 m, 15 Oct. 2002, C. Kajekai 44 (S); Cordillera de Huaracayo, Cerro Ijiach Naint, E of Río Coangas and Shuar village of Tinkimints, 78°10'W, 03°15'S, 1950 m, 20 Mar. 2001, D. Neill, P. Berry, J. Manzanares & L. Jost 13074 (S). **Zamora-Chinchipec:** Cordillera de Nanquipa, Cerro Colorado, ca. 8 km SSE of Nambija, 20 km ESE of Zamora, 78°46'W, 04°07'S, 2700 m, 18 Feb. 2002, D. Neill, W. Quizhpe, J. Manzanares, A. Hirtz, T. DeLinks & C. Cole 13761 (QCNE, S); Cordillera del Cóndor, Yantzaza, plateau on Peru–Ecuador border, 78°28'W, 03°53'S, 2420 m, 15 Mar. 2008, D. Neill & W. Quizhpe 16139 (QCNE).

**4. *Symplocos golondrinae* B. Ståhl, sp. nov.** TYPE: Ecuador. Carchi: El Gualtal, crest of Cerro Golondrinas, 78°08'W, 00°51'N, 3000 m, 21 Aug. 1994, W. Palacios & J. L. Clark 12513 (holotype, QCNE; isotypes, MO, S). Figure 2D, E.

Species a *Symplocote clethrifolia* B. Ståhl floribus minoribus atque disco et ramulis glabris differt.

Tree to 4 m tall; young shoots and branches brown, smooth, turning grayish with age. Leaves petiolate; blade elliptic or oblong, 3–6 × 2.2–3.5 cm, cartilaginous, sparsely strigose abaxially, mainly on veins, glabrous adaxially, base short-attenuate or truncate, apex rounded, margins revolute, denticulate with 15 to 20 teeth per side; lateral veins 5 or 6 per side, midvein, lateral veins, and veinlets on abaxial side prominent and verrucose, impressed adaxially; petiole 4–6 mm, glabrous, flattened, narrowly winged. Inflorescences fasciculate, sessile, borne in axils of extant leaves and along branchlets beneath the foliage; flowers 3 to 5 per inflorescence; each flower subtended by 3 bracts and 2 bracteoles, these very broadly ovate, 2.2–3 × 2.5–2.8 mm, strigulose on

midvein toward apex, otherwise glabrous, margins ciliolate. Flowers with the calyx glabrous, tube ca. 1.2 mm, lobes very broadly ovate, 1.2–2.2 × 2–2.5 mm, margins ciliolate; corolla glabrous, white, ca. 3.5 mm, lobes 5, broadly oblong, 1.2–2 mm wide, margins entire; stamens 45 to 55 in 3 rows, free filaments 0.2–0.4 × ca. 0.2 mm, smooth; anthers ca. 0.2 × 0.2 mm; disc dome-shaped to flat, glabrous; style ca. 1.2 mm, glabrous; stigma irregularly 3-lobed; ovary 3-locular with 2 ovules per locule. Mature fruits not seen.

*Distribution and habitat.* The species is known solely from a scrub páramo area on Cerro Golondrinas in northern Ecuador.

*IUCN Red List category.* The new species is categorized as Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001).

*Discussion.* *Symplocos golondrinae* is similar to *S. clethrifolia* B. Ståhl of southern Ecuador, especially in such leaf features as the prominent verrucose veins on the abaxial leaf surface. It differs from that species by having considerably smaller flowers (corolla ca. 3.5 mm vs. 5–8 mm long), the glabrous (not pilose) disc, and glabrous (not tomentose) young shoots.

*Paratypes.* ECUADOR. **Carchi:** Cerro Golondrinas, northern ridge, 78°08'W, 00°51'S, 3000–3060 m, 24 July 1994, B. Boyle, A. Boyle, J. Bradford & N. Skinner 3380 (QCNE); same locality and date, B. Boyle, A. Boyle, J. Bradford & N. Skinner 3393 (QCNE).

**5. *Symplocos guacamayensis* B. Ståhl, sp. nov.** TYPE: Ecuador. Napo: Cordillera de los Guacamayos, E sector, betw. El Mirador & rd. to La Virgen, 77°51'W, 00°38'S, 2300 m, 12–14 Jan. 1999, H. Vargas & E. Narváez 3578 (holotype, QCNE; isotypes, MO, S). Figure 3C, D.

Species a *Symplocote nuda* Humb. & Bonpl. floribus minoribus, staminibus paucioribus atque foliis glabris differt.

Tree to 18 m tall; young shoots and branches glabrous, dark brown to black, turning gray. Leaves petiolate; blade obovate to elliptic, 5–8.5 × 2–3.5 cm, coriaceous, glabrous on both sides, base attenuate or shortly attenuate, apex acuminate with acumen 0.8–1.5 cm, margins denticulate toward apex, with 3 to 5 teeth per side, otherwise entire; midvein prominent abaxially, slightly impressed adaxially, lateral veins 5 to 7 per side, these and veinlets rather conspicuous, prominulous on both sides; petiole 0.6–0.8 cm, flat or somewhat canaliculate, glabrous. Inflorescences fasciculate, borne in leaf axils of extant leaves, pedicels 1–2 mm. Flowers approximately 3 per inflorescence; each flower subtended by 1 or 2 bracts and 3 bracteoles; bracts

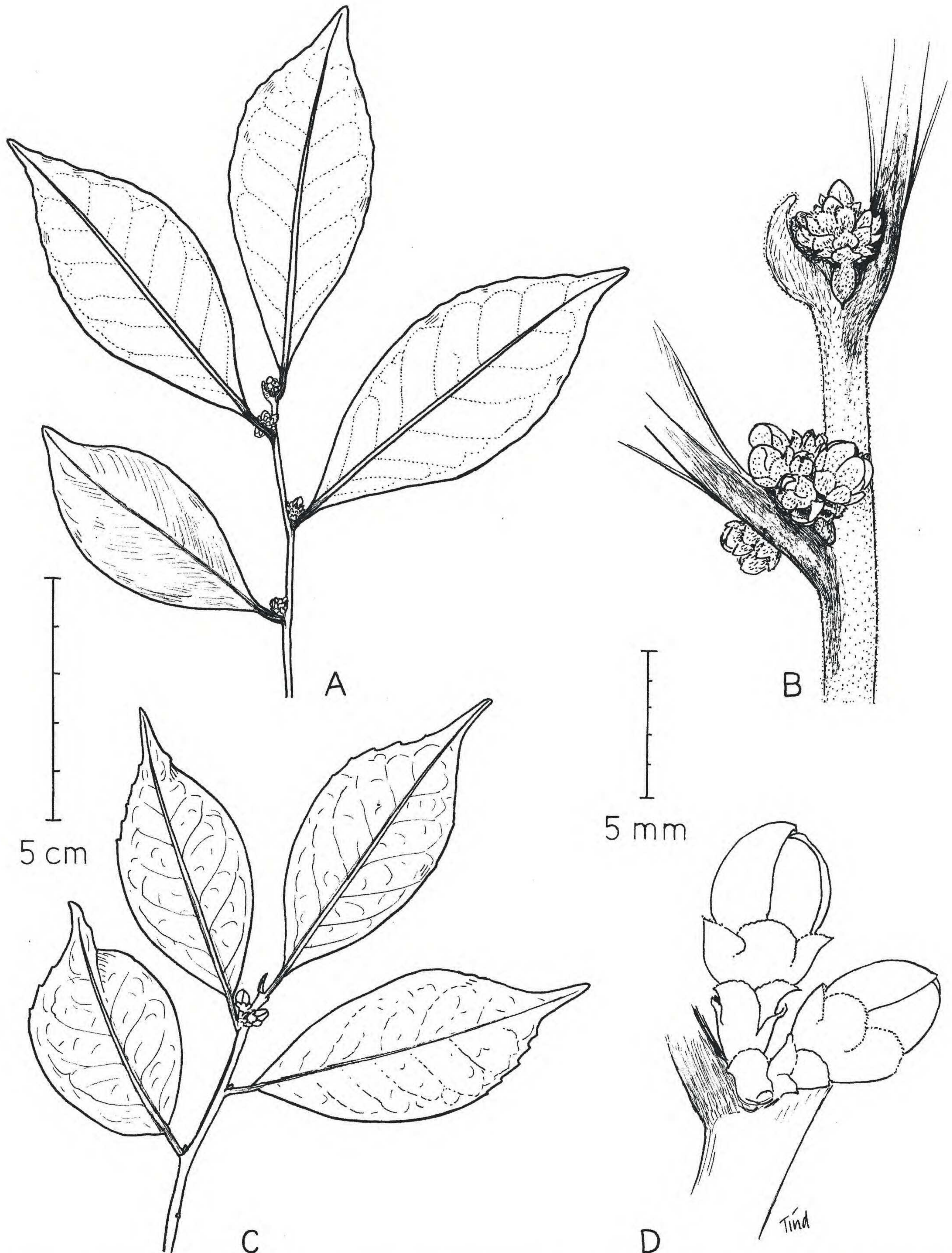


Figure 3. *Symplocos fragilis* B. Ståhl (A, B) and *S. guacamayensis* B. Ståhl (C, D). —A, C. Habit. —B, D. Close-up of inflorescences. A, B drawn from the holotype C. Díaz *et al.* 7228 (S); C, D drawn from the isotype H. Vargas & E. Narváez 3578 (S).

glabrous, broadly to very broadly ovate, ca. 1 × 1–1.2 mm, margins ciliolate; bracteoles glabrous, very broadly ovate, 1–1.5 × 1.2–2 mm, with size increasing toward the flower, margins ciliolate.

Flowers with the calyx glabrous, tube ca. 1.5 mm, lobes very broadly ovate, ca. 1.5 × 2 mm, margins ciliolate; corolla glabrous, color unknown, to 6 mm long, lobes 2.5–3 mm wide, margins entire; stamens

35 to 40 in 3 rows, free filaments 1–2 × 0.3–0.4 mm, smooth; anthers ca. 0.4 × 0.4 mm; disc annular, pilulose; style 3.5–4 mm, glabrous; stigma capitate, 3-lobed; ovary 2- or 3-locular. Fruits not seen.

*Distribution and habitat.* *Symplocos guacamayensis* is known only from two collections made in primary, montane rainforest on the east Andean slopes of east-central Ecuador.

*IUCN Red List category.* The new species is categorized as Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001).

*Vernacular name.* Huila (*H. Vargas & E. Narváez* 3578).

*Discussion.* In leaf shape and habit as a large tree, *Symplocos guacamayensis* is similar to *S. nuda* Humb. & Bonpl. It differs from that species in having much smaller flowers (corolla ca. 6 mm vs. 11–13 mm long) with fewer stamens (35 to 45 vs. 80 to 90), and glabrous leaves (not pilose-strigose abaxially).

*Paratype.* ECUADOR. **Napo:** Cordillera de Guacamayos, ca. 6 km SE of Cosanga, 77°50'W, 00°38'S, 1900 m, 1 Apr. 2006, *J. Homeier, D. Trujillo & M. Unger* 2229 (QCA).

#### NEW SPECIES REPORT FROM ECUADOR

**1. *Symplocos spruceana*** (Miers) Gürke, Pflanzenr. 4(1): 170. 1890. TYPE: Peru. *R. Spruce* 4845 (holotype, BM; isotypes, F, G, GH, K, NY, P, W).

*Discussion.* *Symplocos spruceana* is a poorly known species, previously recorded only from lower montane forest in northern Peru. Additional collections have now been made in similar habitats in eastern Ecuador. The Ecuadorian material differs in the smaller leaves and possibly smaller fruits, making the distinction from the high Andean *S. bogotensis* Brand somewhat problematic. However, the leaves of the latter species are generally much smaller (leaf blades 2.5–6 cm vs. 10–18 cm long), thicker, and comparatively broader (length:width ratio 1.5–2 vs. 2–3).

*Specimens examined.* ECUADOR. **Napo:** E side of Cordillera de Galeras, 77°31'W, 00°51'S, 1600 m, *D. Neill & H. Vargas* 10551 (QCNE, S); same general area, trail to Huamaní, 77°31'W, 00°39'S, 1350–1650 m, *A. Alvarez et al.* 1653 (S), 1688 (QCNE), 1724 (QCNE); Sumaco-Galeras National Park, 77°32'W, 00°49'S, 1590 m, *J. Hofmeier et al.* 3612 (QCNE). PERU. **San Martín:** Tarapoto, *R. Spruce* 4845 (BM, F, G, GH, K, NY, P, W); San Roque, *L. Williams* 7433 (A, F, US).

#### NEW SPECIES FROM PERU

**1. *Symplocos fragilis*** B. Ståhl, sp. nov. TYPE: Peru. Amazonas: Prov. Bagua, Imaza, Aguaruna

Putuim community, hills SW of Putuim, 760 m, 24 Sep. 1994, *C. Díaz, A. Peña & P. Atamain* 7228 (holotype, S). Figure 3A, B.

Species a *Symplocote condorensis* B. Ståhl foliis ad bases attenuatis, petiolis longioribus, inflorescentiis fasciculatis atque floribus strigulosis, a *S. peruviana* (Szyszyl.) Brand inflorescentiis fasciculatis, staminibus numerosioribus atque ovario triloculari differt.

Tree to 20 m tall; young shoots and branchlets inconspicuously but densely puberulent, brown to light brown, smooth. Leaves petiolate; blade oblanceolate to elliptic, 6–10 × 2.5–3.7 cm, coriaceous, glabrous on both sides, base attenuate, apex acuminate with acumen 0.5–1.2 mm, margins vaguely crenate toward apex, eglandular; midvein prominent abaxially, slightly impressed adaxially, lateral veins 5 to 7 per side, these and veinlets inconspicuous, prominulous abaxially; petiole 0.4–0.6 cm, distinctly darkened, flat, glabrous. Inflorescences fasciculate, sessile or very shortly pedunculate, borne in the leaf axils of extant leaves; flowers 8 to 12 per inflorescence; each flower subtended by 1 bract and 2 bracteoles, inserted just beneath the calyx, these strigulose on outside, ciliolate at margins and very broadly ovate, bract ca. 1.2 × 1.2 mm, bracteoles ca. 0.7 × 0.7 mm. Flowers with the calyx sparsely strigulose, tube ca. 0.5 mm, lobes very broadly ovate, ca. 1 × 1.2 mm, margins ciliolate; corolla cream, ca. 3 mm, lobes 5, broadly oblong, 1.2–1.5 mm wide, strigulose on outside; stamens 25 to 30 in 2 or 3 rows, free filaments 0.2–1 × ca. 0.2 mm, papillose; anthers ca. 0.2 × 0.2 mm; disc annular, densely strigulose; style glabrous, ca. 0.7 mm; stigma capitate, vaguely lobed; ovary 2-locular with 3 ovules per locule. Fruits not seen.

*Distribution and habitat.* *Symplocos fragilis* is restricted to premontane and lower montane rainforest of northeastern Peru.

*IUCN Red List category.* The new species is categorized as Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001).

*Discussion.* This new species has many features in common with *Symplocos condorensis*, notably the 2-locular ovary and the leaves and flowers of similar size. However, *S. condorensis* has the leaf blades truncate or short-attenuate at the base (vs. distinctly attenuate in *S. fragilis*), shorter petioles (0.1–0.3 cm vs. 0.4–0.6 cm), paniculate inflorescences (not fasciculate), and glabrous floral parts (not sparsely strigulose). *Symplocos fragilis* also resembles *S. peruviana*, but differs from that species by having fasciculate inflorescences (not paniculate), flowers with fewer stamens (25 to 30 vs. 50 to 65), and a 2-locular ovary. In addition, the rust-colored, more or

less rugose branches of *S. peruviana* seem to set that species well apart from *S. fragilis*.

*Paratypes.* PERU. **Amazonas:** Prov. Bagua, Imaza, Cerro Apág, Quebrada Kusú, 550 m, 19–21 Nov. 1996, *C. Díaz, J. Campos, A. Peña & D. Chamik* 8553, 8651, 8653 (S); Prov. Luya, Jaípe, “El Paraiso,” 1700 m, 31 May 1989, *C. Díaz & J. Campos* 3584 (S).

**2. *Symplocos ovata* B. Ståhl, sp. nov.** TYPE: Peru. Amazonas: Prov. Luya, Camporendon, Tullanya, Pascana, 78°20'W, 06°06'S, 2250–2360 m, 4 Dec. 1996, *C. Díaz & A. Peña* 8808 (holotype, S). Figure 4A, B.

Species a *Symplocote patazensis* Mansf. foliis pilosulis vel glabris, inflorescentiis lateralibus, ovario triloculari atque floribus minoribus differt.

Tree to 25 m tall; young shoots and branches densely pilulose, pale reddish brown. Leaves petiolate; blade ovate, 5–14 × 4–9 cm, coriaceous, pilulose abaxially, sparsely pilulose to glabrous adaxially, base truncate or somewhat cordate, apex rounded, margins entire or vaguely repand, eglandular; midvein prominent abaxially, ± level with surface adaxially, lateral veins 4 to 6 per side, prominent abaxially, ± level with surface adaxially, veinlets rather inconspicuous; petiole 0.5–1 cm, densely pilulose, canaliculate. Inflorescences paniculate, lateral, mainly borne beneath the foliage, solitary or in groups of 2 to 4, rachis and inflorescence branches densely pilulose; flowers in groups of 3 to 6, condensed mainly at the tips of the inflorescence branches; each flower subtended by 1 bract and 2 bracteoles, these densely strigulose, ovate; bract ca. 1 × 1 mm, bracteoles ca. 1.2 × 1.2 mm. Flowers with the calyx densely strigulose, tube ca. 1.2 mm, lobes very broadly ovate, ca. 1 × 1.3 mm; corolla glabrous, color unknown, ca. 3 mm, lobes broadly oblong, 1.3–1.7 mm wide; stamens 35 to 45 in 2 or 3 rows, free filaments 0.5–1.7 mm, papillose; anthers ca. 0.3 × 0.3 mm; disc annular, densely pilulose; style glabrous, 1.2–1.5 mm; stigma 3-lobed; ovary 3-locular with 3 ovules per locule. Fruits not seen.

*Distribution and habitat.* *Symplocos ovata* is known only from a single locality of montane forest in northern Peru.

*IUCN Red List category.* The new species is categorized as Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001).

*Discussion.* *Symplocos ovata* keys to *S. patazensis* Mansf. in my treatment of Symplocaceae in Peru (Ståhl, 1993), the two species having similar wide, distinctly petiolate leaves and paniculate inflorescences. However, *S. ovata* is readily distinguished

from *S. patazensis* because of its less dense pubescence, lateral rather than terminal inflorescences, and somewhat smaller flowers (corolla ca. 3 mm vs. ca. 4 mm long) with fewer stamens (35 to 45 vs. 50 to 60) and a 3-locular ovary (not 4-locular).

*Paratype.* PERU. **Amazonas:** Prov. Luya, Camporendon, Tullanya, Pascana, 78°20'W, 06°06'S, 2250–2360 m, 4 Dec. 1996, *R. Vásquez & R. Rojas* 21960 (S).

**3. *Symplocos dolichopoda* B. Ståhl, sp. nov.** TYPE: Peru. Cusco: Prov. Urubamba, ca. 112 km from Cusco on railroad to Machu Picchu, 72°31'W, 13°09'S, 1050–1300 m, 18 Nov. 1987, *P. Nuñez V.* 8630 (holotype, S). Figure 5A–C.

Species a *Symplocote robusta* B. Ståhl indumento multo densiore atque floribus majoribus differt.

Tree to at least 8 m tall; young shoots and branchlets glabrous or very sparsely strigulose, brown, the bark somewhat rugose. Leaves petiolate; blade obovate, subrotund, or broadly elliptic, 7–17 × 5–8.5 cm, coriaceous, glabrous on both sides or sparsely strigulose abaxially, base short-attenuate, apex rounded or retuse, sometimes acute, margins entire or vaguely and sparsely serrate, eglandular or with 3 to 5 glands per side along the upper half of the leaf; midvein prominent abaxially, level or somewhat impressed adaxially, lateral veins 4 to 7 per side, prominent abaxially, level with leaf surface adaxially, veinlets rather conspicuous, at least abaxially; petiole 0.8–2 cm, canaliculate, sparsely strigulose. Inflorescences paniculate, lateral, borne in groups of 2 or 3 in leaf axils of extant leaves, 1–1.5 cm, rachis and inflorescence branches strigulose; flowers 10 to 15 per inflorescence; each flower subtended by 3 or 4 bracts and several bracteoles, these gradually diminishing in size toward base, broadly ovate, 1–1.2 × 1.2–1.5 mm, strigulose, ciliate at margins. Flowers with the calyx glabrous, tube ca. 1 mm, lobes very broadly ovate, ca. 1.2 × 1.2 mm, margins ciliolate; corolla glabrous, only seen in large buds, 3.5–4 mm, lobes 5, broadly oblong, 1.5–2 mm wide, ciliate at margins and at tips; stamens 12 to 15 in 2 rows, free filaments 0.7–1.5 mm, papillose; anthers ca. 0.4 × 0.4 mm, papillose; disc dome-shaped, sparsely strigulose; style ca. 1 mm, glabrous; stigma capitate, indistinctly lobed; ovary 3-locular with 2 ovules per locule. Fruits narrowly ellipsoid to cylindrical, 15–20 × 8–12 mm, glabrous, smooth.

*Distribution and habitat.* *Symplocos dolichopoda* is known only from central Peru, where it has been collected in montane forest in the east Andean cordillera.

*IUCN Red List category.* The new species is categorized as Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001).



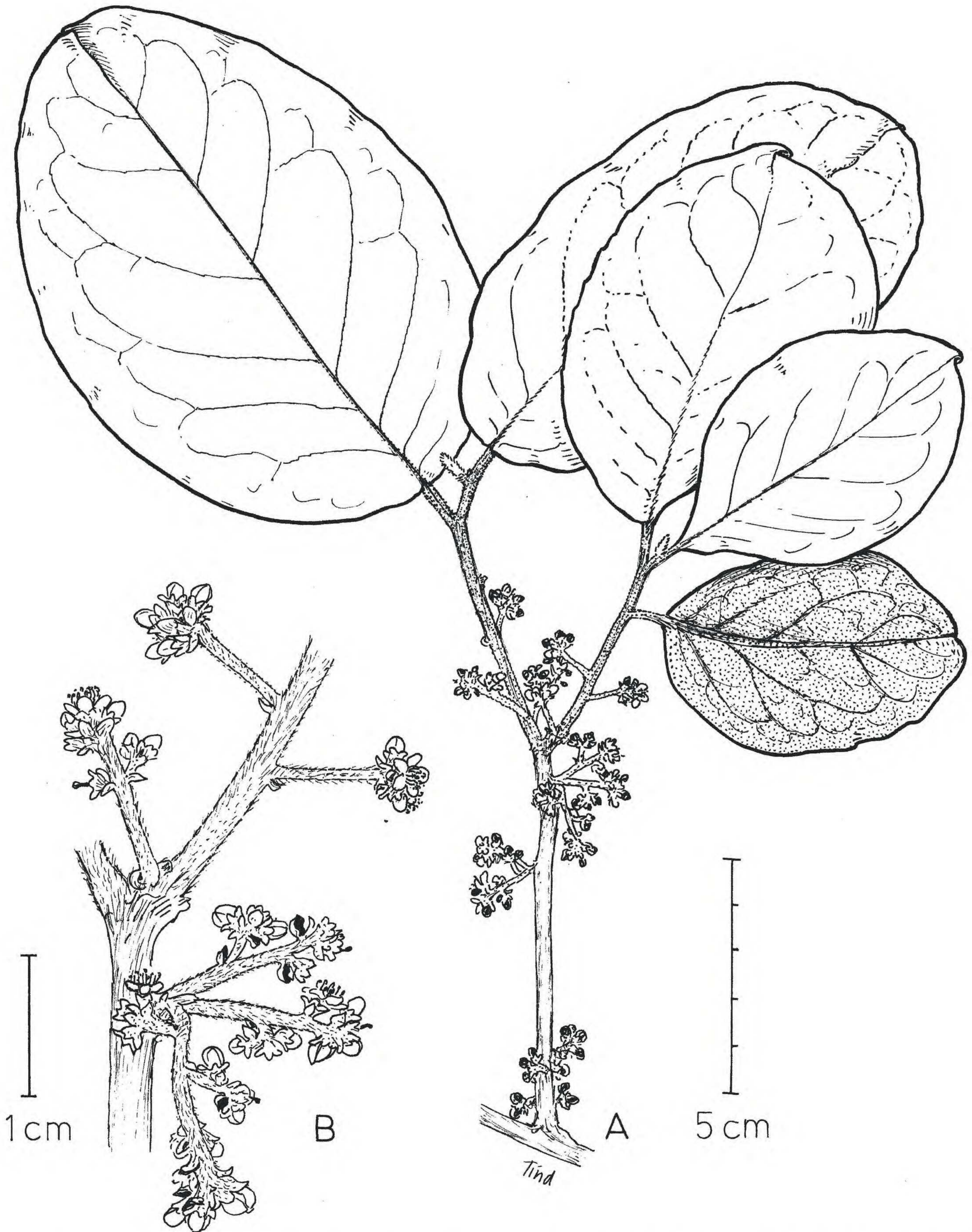


Figure 4. *Symplocos ovata* B. Ståhl. —A. Habit. —B. Inflorescences. Drawn from the holotype C. Díaz & A. Peña 8808 (S).

*Discussion.* Although it is represented by rather scanty material lacking open flowers, I do not hesitate to describe this species as new. *Symplocos dolichopoda* is distinguished by the large, broad leaves and long petioles, distinctly ciliate margins of the bracts

and calyx lobes, few stamens, and papillose anthers. It may well have its closest relative in *S. robusta* B. Ståhl, which occurs in La Paz Department, Bolivia (Ståhl, 1994), and which is also characterized by large, long-petiolate leaves. However, *S. dolichopoda*

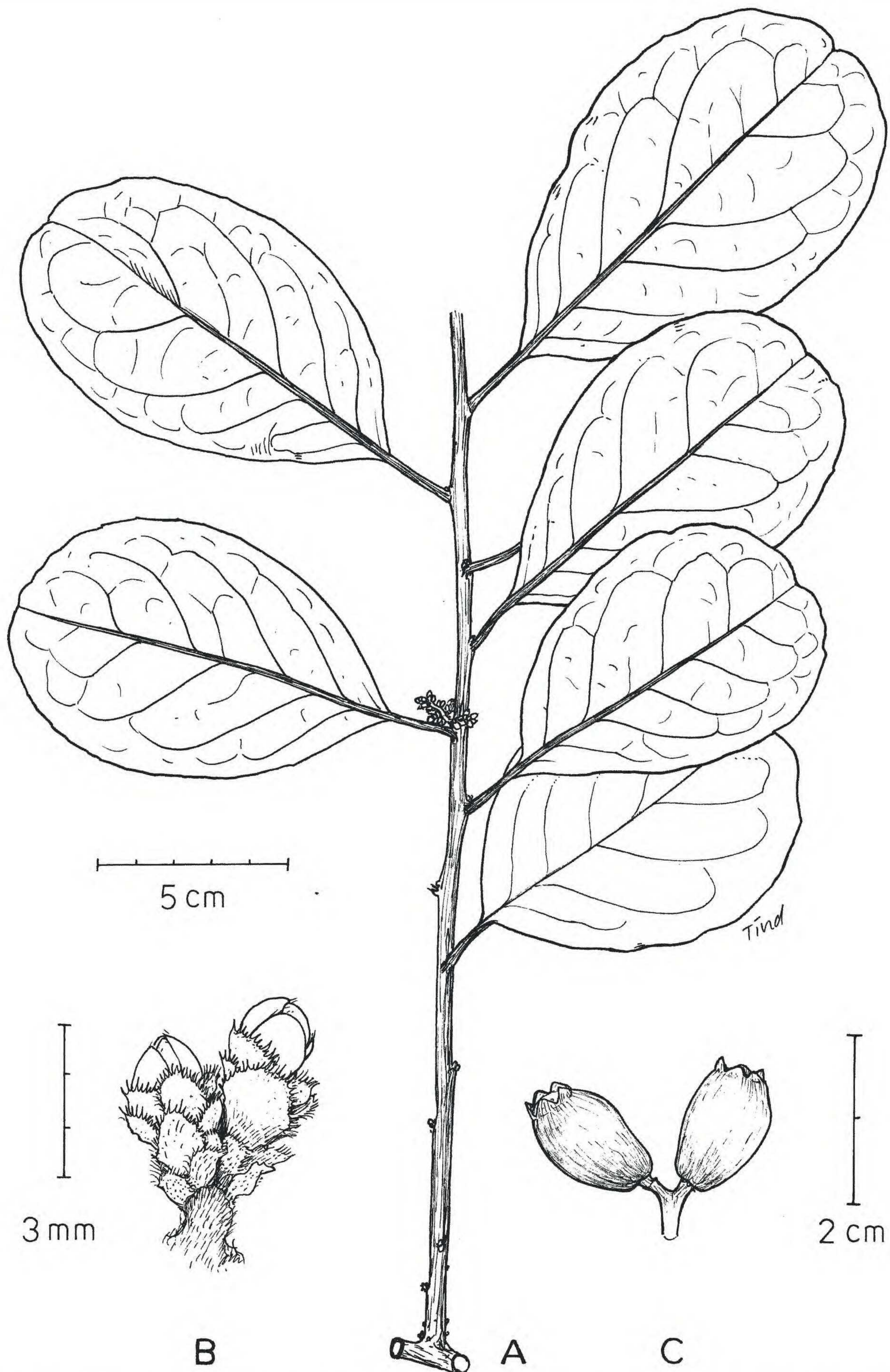


Figure 5. *Symplocos dolichopoda* B. Stähl. —A. Habit. —B. Inflorescence. —C. Fruits. A, B drawn from the holotype *P. Núñez* 8630 (S); C drawn from the the paratype *P. Núñez* 8934 (S).

differs from that species in having a different and much sparser vestiture, if any, on leaves and young shoots (sparsely strigulose, not densely tomentose) and smaller flowers (corolla 3.5–4 cm vs. ca. 5 cm long).

*Paratype.* PERU. **Cusco:** Prov. Urubamba, Machu Picchu, 115 km from Cusco, 72°31'W, 13°09'S, 2100 m, 4–6 Apr. 1988, *P. Núñez V. 8934* (S).

#### NEW SPECIES REPORT FOR PERU

**1. *Symplocos nuda*** Humb. & Bonpl., Pl. Aequinoct. 1: 195. 1808. TYPE: Ecuador. Loja: Loja, *A. Bonpland 3370* (lectotype, designated by Ståhl, 1991: 20, P; isotypes, F, G, P-HBK).

*Discussion.* *Symplocos nuda* has hitherto been known solely from the west Andean slopes of central and southern Ecuador (Ståhl, 1991). However, in recent years it has also been collected in similar habitats in northern and southern Peru.

*Specimens examined.* PERU. **Amazonas:** Tingo, Cuelap, 1900 m, *R. Vásquez et al. 25449* (S). **Cusco:** Prov. Urubamba, S of Machu Picchu, 72°31'W, 13°09'S, 2200 m, *P. Núñez & J. Arizabal 14217* (S). **Piura:** Prov. Morropón, Mijal Forest, 79°44'W, 05°03'S, 2600 m, *K. Hoenselaar et al. 103* (S); Cerro Aypate, 49 km E of Ayabaca, 79°32'W, 04°35'S, 2740–2760 m, *A. Gentry et al. 74983* (S).

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